EXHIBIT 12

University of Colorado Boulder

DECLARATION OF DR. JUSTIN SCHWARTZ

I, Dr. Justin Schwartz, declare as follows:

1. I am the Chancellor at the University of Colorado Boulder ("CU Boulder" or "the University") in Boulder CO. I have held this position since July 1st, 2024. Prior to holding this position, I was Executive Vice President and Provost at The Pennsylvania State University (interim then permanent) from 2022-2024, after serving as the Harold and Inge Marcus Dean of Penn State's College of Engineering from 2017 to 2022. I have spent my career as a researcher, educator, entrepreneur and academic leader in large state universities. I hold a bachelor's degree in nuclear engineering from the University of Illinois Urbana-Champaign and a doctorate in nuclear engineering from the Massachusetts Institute of Technology. I am a fellow of the National Academy of Inventors, the American Association for the Advancement of Science, the Institute of Electrical and Electronics Engineers, and ASM International.

2. As the Chancellor, I have personal knowledge of the contents of this declaration or have knowledge of the matters based on my review of information and records gathered by CU Boulder personnel and could testify thereto.

3. CU Boulder receives substantial annual funding from the National Science Foundation ("NSF"). In fiscal year 2024 the university received 232 awards from NSF totaling $95,210,48, with $29,497,513 in indirect expenses. This total includes one cooperative agreement, the National Quantum Nanofab award of $20.1M.

4. CU Boulder intends to apply for new funding awards, and/or renewals and continuations of existing funding awards, in the next year and in future years to come.

5. The funding CU Boulder receives from NSF supports critical and cutting-edge research that enhances U.S. scientific competitiveness, supports advanced workforce development, and contributes directly to national security by accelerating breakthroughs in quantum technologies, AI, engineering, and space physics. Millions of Americans benefit from and depend on this research. For example:

a. The University of Colorado Boulder is at the forefront of quantum science and engineering, advancing a nationally recognized research ecosystem anchored by NSF investments. CU Boulder leads the NSF Quantum Systems through Entangled Science and Engineering (Q-SEnSE) institute, which investigates tools for a national infrastructure in quantum sensing and trains a quantum savvy workforce, and the Science and Technology Center on Real-Time Functional Imaging (STROBE), which leverages quantum-enabled imaging to study dynamic processes at the nanoscale. The JILA Physics Frontier Center (PFC), a longstanding NSF-supported center, drives foundational discoveries in quantum optics, ultracold atoms, and precision measurement, while various other NSF-funded quantum projects advance applications in quantum communications. CU Boulder's growing quantum research infrastructure is further supported through NSF Major Research Instrumentation grants, the forthcoming National Quantum Nanofabrication (NQN) facility, and workforce development programs, including workshops and education research focused on quantum career pathways. These initiatives advance the United States' leadership in quantum technologies, promote economic competitiveness, and support national security through next-generation sensing, navigation, secure communication, and advanced computing capabilities. In Colorado, 3,000 workers are employed in the

quantum workforce today, supporting the growth of more than 30 companies leading advancement in quantum tech— the largest cluster of quantum companies in the nation. Facilities such as the NQN, coupled with Q-SEnSE, STROBE, and PFC, are accelerating the transition of cutting-edge quantum research from the laboratory to the market and facilitating a vibrant startup and scale-up ecosystem.

b. The University of Colorado Boulder conducts NSF-funded research in artificial intelligence that advances responsible, next-generation technologies in areas such as machine learning, human-computer interaction, data-driven decision-making, and trustworthy autonomous systems. CU Boulder's NSF AI Institute for Student-AI Teaming (iSAT), which develops AI tools to support collaborative learning, is currently under review for renewal. If capped at 15%, the Institute would be unable to sustain its current level of operations. This shortfall would result in the loss of key personnel whose specialized expertise is vital to fulfilling the iSAT's mission. The AI Institute promotes AI literacy in schools, and the weaving of AI concepts into subjects like math, science, history, and even the arts. It provides the opportunity to develop material for age-appropriate exposure for the introduction of simple concepts to young students and advancing to more technical applications for older students. Moreover, the Institute will introduce teachers across subjects to AI principles, including ethics, algorithms, and applications (See, e.g., "Advancing Artificial Intelligence Education for American Youth," April 23, 2025.). CU Boulder also plays a leadership role in the NSF's National AI Research Resource (NAIRR) pilot, helping expand access to AI infrastructure nationwide. Across its broader AI portfolio, CU Boulder's research supports national priorities by improving cybersecurity, enhancing public infrastructure, and enabling

transparent, reliable AI systems for critical applications in defense, disaster response, and secure communications.

c. The University's NSF-funded engineering research is focused on improving technologies such as wireless communications, power grid control, advanced sensing systems, and medical diagnostics. These efforts contribute directly to national security by enhancing the reliability of critical infrastructure, supporting secure data and communication systems, and advancing technologies with applications in defense, aerospace, and emergency response.

d. CU Boulder's Laboratory for Atmospheric and Planetary Science (LASP) conducts a robust portfolio of NSF-funded research focused on solar, space, and atmospheric physics to advance understanding of geospace environments and their interactions with planetary systems. Projects include investigations into solar flares, energetic particle precipitation, ionospheric variability, and magnetospheric dynamics—critical phenomena that impact satellite operations, communications infrastructure, and global climate models. Through advanced laboratory measurements and modeling this research enhances national capabilities in space weather forecasting, supports the safety and resilience of space-based technologies, and contributes to U.S. leadership in heliophysics and planetary science.

e. CU Boulder's Institute for Arctic and Alpine Research (INSTAAR) conducts interdisciplinary research on complex earth systems. It collects long-term environmental data collection in some of the fastest-changing regions and utilizes cutting-edge technology for detection, simulation and processing samples.

6. Reimbursement of CU Boulder's indirect costs is essential for supporting this research. NSF's cutting of indirect cost rates to 15% would preclude carrying out the kinds of research projects described in paragraph 5 in the future.

7. Indirect costs include purchasing and maintaining research equipment (including service contracts), constructing and maintaining state-of-the-art facilities, laboratories and other facilities such as multiple cleanroom environments that use advanced filtration systems and associated micro- and nano-fabrication capabilities that support research in semiconductors and quantum technologies. These environments include the upcoming National Quantum Nanofabrication (NQN) facility, which will be available to users not only from CU Boulder, but also from the Colorado industry and to researchers from across the United States. Without this critical infrastructure, we simply cannot conduct research. For example, with respect to the areas of research described in Paragraph 5:

a. Research in quantum science and engineering at CU Boulder requires advanced equipment designed to manipulate and measure phenomena at the smallest scales. This includes specialized instrumentation and building support systems such as specialized HVAC systems, processed chilled water systems, vibration-controlled areas and optical tables, and advanced electrical requirements that have been developed to support this research. Nanofabrication tools such as electron beam lithography and thin-film deposition systems are essential for developing quantum devices, and high-performance computing clusters are used for quantum simulations and data analysis.

b. Loss of funding will have a severe impact on our ability to conduct research. Training and development of the quantum workforce would be severely impacted due to loss of this vital infrastructure and loss of opportunities for our current and future researchers.

c. CU Boulder's AI research relies on cutting-edge computational infrastructure and operation of specialized laboratory facilities. This includes GPU-enabled high-performance computing clusters for training large-scale machine learning models, as well as secure data storage and advanced networking systems to support distributed AI research. In human-centered AI work, such as that conducted by the iSAT Institute, researchers use interactive lab environments equipped with speech and gesture recognition tools, and neural activity, enabling researchers to study real-time human-AI interaction in complex, collaborative environments. The facilities are essential to iSAT's mission to design AI systems that are transparent, adaptive, and aligned with human communication patterns—particularly in applications such as national security, workforce automation, and next-generation classrooms. The ongoing operation and maintenance of these facilities rely heavily on the university's ability to recover indirect costs.

d. Engineering research at CU Boulder is supported by specialized laboratories, such as the CU Facility for Electron Microscopy of Materials (FEMM) and the Colorado Shared Instrumentation in Nanofabrication and Characterization (COSINC), and testbeds for wireless communications, power systems, sensing technologies, and biomedical devices. Key equipment includes RF spectrum analyzers and signal generators for communications research, grid simulators for power systems, and MEMS fabrication tools for building micro- and nanoscale sensors. Optical systems, mechanical testing platforms, and cleanroom facilities enable work in photonics, smart materials, semiconductors and medical diagnostics. These resources are critical to

advancing technologies used in national defense, aerospace, and infrastructure resilience.

e. Research in atmospheric and planetary sciences at LASP relies on equipment that enables both laboratory-based and observational studies. These include space environment simulation chambers, spectrometers, plasma diagnostics tools, and detectors for analyzing solar and magnetospheric phenomena. Ground-based instruments such as LIDAR and radio telescopes support remote sensing, while supercomputers enable large-scale modeling of space weather and climate systems. These tools are critical to the understanding of Earth's upper atmosphere and its interactions with solar and space conditions that affect satellites, communications, and global climate.

8. Physical facilities costs are one of the largest components of indirect costs. These include not only the usual costs of constructing and maintaining buildings where research occurs, but the very high costs of outfitting and maintaining specialized laboratory space, which can require special security, advanced HVAC systems, and specialized plumbing, electrical systems and waste management, high performance computing infrastructure, as well as specialized laboratory equipment, such as ultra low temperature freezers and cleanrooms. The features and amount of space available to researchers have a direct and obvious impact on the nature and the amount of research that can be done at CU Boulder. In addition, CU Boulder is currently in the process of constructing a new academic and research facility aimed at advancing research and educational opportunities in chemistry and applied mathematics. The facility will host modern research laboratories for chemistry, applied mathematics and specialized quantum research, supporting research missions in analytical spectroscopy, environmental chemistry and

computational mathematics. The estimated cost of this facility is $177M, of which $4M annually in indirect cost recovery funds are anticipated to be used to meet debt service obligations. An ICR reduction to 15% would put this project at risk as the reduction of ICR would put tremendous pressure on CU Boulder to finance this critical project.

9. In addition, indirect costs fund the administration of awards, including staff who ensure compliance with a vast number of regulatory mandates from agencies such as NSF. These mandates serve many important functions, including ensuring research integrity; protecting research subjects; properly managing and disposing of chemical and biological agents and other materials used in research; managing specialized procurement and security requirements for sensitive research; managing funds; preventing technologies and other sensitive national security information from being inappropriately accessed by foreign adversaries; providing the high level of cybersecurity, data storage, and computing environments mandated for regulated data; ensuring compliance with specialized security protocols and safety standards; maintaining facility accreditation and equipment calibration to meet research quality and security standards; and preventing financial conflicts of interest. The loss of funding would also impact essential research support personnel – including those in finance, communications, operations, grant coordinators, building maintenance as well as laboratory technicians and coordinators – disrupting continuity across active projects and weakening the institution's ability to sustain its research enterprise.

10. Recovery of CU Boulder's indirect costs is based on predetermined rates that have been contractually negotiated with the federal government.

11. Through fiscal year 2024, the predetermined indirect cost rates are 56.5%.

12. The effects of a reduction in the indirect cost rate to 15% would be devastating. In Fiscal Year 2024 CU Boulder expended approximately $95.8M in direct costs on NSF awards and

recovered $29.5M in indirect costs. In addition, $18.4M was received to support subcontracts awarded by CU Boulder (which are not eligible for full indirect cost recovery). Similarly, in fiscal year 2025, CU Boulder expects to expend $92.6M in NSF funding for direct costs and $28.5M in NSF funding for indirect costs. And over the next five years, CU Boulder anticipates expending an average of $98M for annual direct costs on NSF projects. Based on the predetermined indirect cost rate of 56.5%, which was agreed upon by the federal government as of 2022 and applying that rate to the direct costs (as modified pursuant to the CFR), the University of Colorado Boulder reasonably expects to receive approximately $30.2M in indirect cost recovery on an annual basis over the next five years.

13. If—contrary to what CU Boulder has negotiated with the federal government—the indirect cost rate was reduced to 15% for new awards, that would significantly reduce CU Boulder's anticipated annual indirect cost recovery. For example, applying the 15% rate to the anticipated modified direct costs over the next five years, CU Boulder's anticipated annual indirect cost recovery for NSF awards would be reduced by $22.2M from $30.2M each year to $8.0M a year.

14. This reduction would have deeply damaging effects on CU Boulder's ability to conduct research from day one. Many of CU Boulder's current research projects will be forced to slow down or cease abruptly if forced to apply for renewals at the 15% indirect cost cap. This will also necessarily and immediately result in staffing reductions across the board and would have longer-term effects that are both cumulative and cascading. For example:

a. The University is responsible for ensuring compliance with numerous regulatory requirements from federal sponsors, including NSF. Without adequate funding for indirect costs, the University would need to reduce staff in the Office of Research

Integrity and research compliance, which would limit its ability to prevent financial conflicts of interest, manage intellectual property, and protect technologies and national security expertise from inappropriate access by foreign adversaries. Reductions in staffing within the Office of Information Technologies will hinder the University's capacity to provide the high level of cybersecurity, data storage, and computing environments necessary for regulated data. Furthermore, staffing cuts will adversely affect the support of shared research infrastructure, including unique core facilities that may become unusable and obsolete. This situation could result in significant losses related to investments made to acquire instrumentation and the potential to offer these resources to the broader community for essential testing and characterization. Critical instrumentation includes for example, the transmission electron microscopy facility, quantum measurement devices, spectrometers, and laser systems, among others.

b. It is estimated that cutting the indirect rate to 15% will cause a reduction of $22.2M annually. Based on current allocation of indirect costs to support administrative units, this will correspond to a loss of approximately 85 positions in units including the Office of Contracts and Grants, Campus Controller Office, Research Compliance and Export Controls as well as unit-level administrative positions within units such as the Institute of Cognitive Science (ICS), the JILA Institute, the BioFrontiers Institute, the Museum of Natural History, the Cooperative Institute for Research in Environmental Sciences (CIRES), LASP, research computing, university libraries, the Institute for Artic and Alpine Research (INSTAAR), the College of Arts and Sciences and the College of Engineering and Applied Science.

15. CU Boulder is uniquely positioned to make critical and strategic advancements in

areas such as quantum information science, energy systems and grid resilience, aerospace and planetary sciences, health sciences, telecommunications and artificial intelligence. Funding reductions will hamper the university's ability to deliver innovation, provide world-class education, and advance critical technologies in these fields, ultimately limiting its capacity to drive progress and to contribute discovery and solutions that address some of society's most pressing challenges in areas of national priority. CU Boulder has dozens of NSF proposals currently in process or pending review. If these proposals are subject to a 15% cap on indirect costs, which is contrary to our negotiated 2022 rate, CU Boulder's capacity to drive critical scientific and technological advances—in quantum science, materials innovation, and national infrastructure resilience—will be significantly constrained. Eleven of these proposals are part of the Designing Materials to Revolutionize and Engineer our Future (DMREF) program, which supports the development of next-generation materials for thermoelectrics, quantum switching, polymer composites, and biohybrid catalysis—technologies essential to energy, defense, and high-performance computing. Complementing this work, the aforementioned AI Institute for Student-AI Teaming (iSAT) represents a flagship federal investment in collaborative, human-centered artificial intelligence, with the potential to reshape STEM education at scale. Capping the indirect cost rate to 15% would undermine U.S. leadership in emerging technologies, weaken research infrastructure, and hinder the preparation of a future-ready scientific workforce. In addition, it would make it impossible for CU Boulder to have the necessary resources to conduct research that would be conducted in anticipated proposals amounting to an estimated $18.5M over the next 2 months of this fiscal year.

16. Looking ahead, CU Boulder researchers are preparing submissions for several key upcoming NSF deadlines, including two proposed Science and Technology Centers (STC), a

Materials Research Science and Engineering Center (MRSEC), and a Materials Innovation Platforms (MIP). These programs are cornerstone initiatives that strengthen U.S. leadership in advanced materials and emerging technologies, providing the research capacity and innovation pipeline essential to ensuring U.S. competitiveness and national security. Equally vital to sustaining that nation's research enterprise is the NSF CAREER program, which plays a critical role in launching the research and teaching careers of the nation's most promising early-career scientists and engineers. The University of Colorado Boulder averages approximately 8 to 12 NSF CAREER Award recipients each year, with more than 170 faculty having earned this distinction since 1996. A 15% cap on indirect cost recovery would directly undermine the university's ability to support these investigators—limiting their capacity to pursue high-risk, high-reward research and integrate it with education. Over time, this would erode the development of the scientific workforce, diminish innovation output, and reduce the nation's ability to compete globally in science and technology for decades to come.

17. The University of Colorado Boulder has for decades relied on the payment of indirect costs. And until now, we have been able to rely on the well-established process for negotiating indirect cost rates with the government to inform our budgeting and planning. Operating budgets rely on an estimate of both direct and indirect sponsored funding to plan for annual staffing needs (e.g., post-docs, PhD students, and other research staff), infrastructure support (e.g., IT networks, regulatory compliance, and grant management support), and facility and equipment purchases. And in some cases, CU Boulder has long-term obligations—for example, 433 PhD students funded on NSF awards —and it relies on budgeted grant funding, including associated indirect cost recovery, to fulfill these commitments. This multi-year

budgeting process also assumes the availability or possibility of grant renewals at roughly similar terms – and certainly at the negotiated indirect cost rate – as had been previously available.

18. Disruptions to CU Boulder's research will also have negative effects in the Boulder area, the state of Colorado, and the broader region. More than 13,500 Colorado residents are directly employed by CU Boulder—and it collaborates with state and local partners to help solve regional challenges through joint research and innovation. The University of Colorado Boulder's research also fuels spending in the regional economy, including by driving discoveries that launch new ventures, attract private investment, and make a positive social impact. CU Boulder research expenditures (including equipment, construction, operations, and labor) were estimated at $737M in FY2023–24. The economic contribution of these research activities totaled $1.4B on the Colorado economy in FY2023–24. A massive reduction in CU Boulder's research budget would immediately and seriously jeopardize these contributions to the local region.

19. Finally, slowdowns or halts in research by CU Boulder and other American universities will allow competitor nations that are maintaining their investments in research to surpass the United States on this front, threatening both our Nation's national security and its economic dominance. At CU Boulder, critical research areas that would be impacted include quantum science and engineering, energy systems and grid resilience, aerospace and planetary science, material science, health science, and artificial intelligence. These fields are essential for addressing national priority challenges and national security.

20. The University of Colorado Boulder cannot cover the funding gap itself. The University of Colorado Foundation maintains an endowment for the entire University of Colorado system, and not the individual campuses. Additionally, endowment funds are restricted based on the individual donor the donor agreement, meaning it is neither feasible nor allowable for the

University of Colorado Boulder to use endowment funds to cover funding gaps created by a reduction to indirect cost rates.

21. It is also not feasible or sustainable for CU Boulder to use other revenue sources to offset shortfalls in indirect cost recovery. As a public, non-profit institution, CU Boulder reinvests nearly all of its revenue into mission-critical activities, leaving little margin to absorb unexpected funding gaps. In other words, unlike for-profit organizations, CU Boulder does not generate significant surpluses that could be redirected without impacting core academic priorities such as educational programs and financial aid support for students. Absorbing the cost of a lower indirect cost rate, even if it were possible, would create long-term budget pressures on CU Boulder—which would in turn force reductions in key investments supporting CU Boulder's faculty, students, staff, research, and teaching infrastructure, as well as other critical activities needed to maintain CU Boulder's academic excellence. So even if the University of Colorado Boulder could "cover" some of the indirect costs previously funded by NSF, it could do so only by negatively affecting other critical goals central to the institution's mission.

22. If CU Boulder can no longer apply for NSF grants because it is unable to accept the new indirect cost rate cap – a risk that would impact 99% of our NSF grants – the harm described herein would be exacerbated. That greater loss in funding from NSF would mean more significant cost-cutting measures would need to be adopted—and quickly. The University of Colorado Boulder cannot "float" all the indirect costs it would likely lose coverage for – nor could it float NSF grants altogether if it is not able to accept the 15% cap – so some research projects would need to be terminated or not started altogether, and others would need to be scaled down or pared back significantly. The process of identifying these cuts would need to begin immediately, and layoffs, closures, and research pauses or contractions would follow soon thereafter. Cutting back

on CU Boulder's research in fields such as quantum science and technology, artificial intelligence and machine learning, biological and health sciences, engineering, education, space and solar physics, geosciences and earth systems, ecology, and atmospheric science will also have long-term implications on national security and the American economy.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on May 5, 2025 at Boulder, Colorado.

Signed by:
Justin Schwartz
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Dr. Justin Schwartz, Chancellor